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THE SEED CORN SITUATION

A radio talk by J. R. Holbert, Bureau of Plant Industry, delivered through WRC and 32 other stations associated with the National Broadcasting Company, at 1:15 p.m., Eastern Standard Time, Wednesday, March 5, 1930.

The seed corn situation in the Corn Belt is the worst since 1918. Why is this? The answer is there were two severe freezes in November; one of these occurred about the middle of the month and the other the week following Thanksgiving. During the first freeze the temperature went as low as 6°F. for a period of about 10 hours. The second freeze was harder, the temperature dropping to zero. In many sections the temperature reached 8° below zero for a considerable period, breaking several local records for low temperatures at that particular season of the year.

Such temperatures are not likely to do any damage to well-cured seed -- seed that has been dried down to 12 per cent moisture. But right here was the trouble. Much of the corn that had been selected for seed and was in the cribs, or in unheated buildings, still carried a high moisture content -- perhaps 20 per cent or more. The wet weather in the fall, especially the rainy weather immediately preceding the freezes, did not allow the corn to dry rapidly. Of course, seed that has been properly cured and properly stored was not injured by this untimely cold weather. But there isn't enough seed that comes up to these specifications, for in most years it is not necessary to use artificial heat in drying seed throughout a large part of the Corn Belt. Last fall was an exception.

The situation, therefore, demands attention. The first thing of importance to do is to find out whether or not the seed corn will germinate. And it is more economical to have that information now than to have to replant. Nobody likes to plant-over. There is the loss of labor and the reduction in yield caused by the consequent delayed planting. So it is better to act on the seed corn situation now.

One way to proceed would be to make a collection of about 500 kernels from ears selected at random from the seed lot. This collection of kernels could then be germinated to get a preliminary notion as to whether the seed corn has been killed entirely or only slightly injured.

Seed injured by freezing either will not germinate at all or germinates very weakly. Any such seed is unsatisfactory. The dead seed is, of course, entirely worthless for planting. The seed which has been so injured by freezing as to germinate only very weakly, if used for seed, usually produces seedlings that are very susceptible to disease -- weak and spindly. Such corn is likely to be slow-growing throughout the season and produce an unsatisfactory yield.

In most varieties there is much variation in individual ears. While some ears may have been killed by cold, other ears comparable in moisture content may not have been injured. Let us make this comparison. Consider two men work out-of-doors on a very cold day, one may have his toes, ears

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and nose frozen -- perhaps not quite that bad -- and the other may not suffer any ill effects whatever. Somewhat similar differences exist in different strains of corn, in fact, in individual ears of our open-pollinated strains, such as will be found on most farms throughout the Corn Belt. So some ears may be entirely dead, some may have only half the kernels killed and some may not have been injured. Seed from ears that haven't been injured are the kind to plant.

If the preliminary test shows that the corn is dead it is obvious that some other source of seed supply will have to be found. If the injury is less severe, for instance, if approximately half of the kernels germinate unsatisfactorily, or weakly or not at all, then the seed lot should be worked very carefully, ear by ear. Some people may be inclined to ridicule this physical examination of the ears, calling it the "jack knife" method of testing. I have come to have considerable respect for this method when it is used as it should be by an intelligent corn grower. For instance, if from 4 to 8 of every 10 good-looking ears are obviously weak and questionable, as determined by pulling several kernels with a knife and looking at the germs, why go to the trouble to put these on the germinator and have them tested, better feed them to the pigs. But there is danger in relying too much on a physical examination in such a year as this. The ears that have been selected as promising should be individually ear tested, by yourself or by someone equipped and competent to make the test. This year the germination test is especially important and likely to prove profitable. The method of conducting such a germination test to determine viability, vigor and freedom from disease, is discussed in Farmers' Bulletin 1176. This may be obtained by writing to the U. S. Department of Agriculture, Washington, D. C.

In a critical seed corn situation, such as the present one, many may think that any corn showing a reasonably good germination test is excellent for seed. Some are likely to ask only one question -- will it grow? Where only this one quality is demanded, disappointments are sure to follow when the crop is harvested. Seed of many strains that have a high germination test may not be suited for the level of productivity, soil condition, or length of growing season in which you expect to grow this corn.

And here's another thought -- not new to a single corn grower, nevertheless, timely. Perhaps it may influence your thinking and action between now and corn planting time. One bushel of shelled corn will plant from 6 to 10 acres, depending upon the size of the individual kernels and rate-of-drop. Although one bushel of good seed may cost a reasonable price -- you may think too much -- one bushel of seed corn will plant a larger area than a similar quantity of seed of any other crop in the Corn Belt. Why not figure the cost of seed on an acreage basis instead of the bushel basis? The cheapest seed now may prove the most expensive next fall.

Just a word about seed treatments. The use of seed treatment will not replace the need for careful selection and a germination test, in case the corn has been injured by cold. But, where the necessary seed selection has been practiced, seed treatment furnishes good insurance against the necessity for replanting. Seed treatment might be thought of as a first-aid to the young corn plants -- protecting them against the attack of disease-producing organisms.

Corn seed treatments that can be recommended are applied by dusting the seed at the rate of about 2 ounces per bushel. For further information on the use of chemical dust disinfectants for dent seed corn write for Circular 34, U. S. Department of Agriculture, Washington, D. C.